

**2002 Priority Setting
for
Standards and Test Procedure
Rulemakings
under Existing Legislation**

October 30, 2001

FISCAL 2002 PRIORITY SETTING FOR THE APPLIANCE STANDARDS RULEMAKING PROCESS

The enclosed data sheets reflect the priorities proposed for Fiscal Year 2002 by the Department of Energy, Office of Building Research and Standards. The Office requests comments on the data sheets and the proposed priorities and schedules. These proposed priorities are based on the presumption that the Lighting and Appliance Standards Program will be funded at its requested level for the fiscal year 2002. Final priorities will be based on the Department's consideration of comments received and funds available. Once rulemakings are completed low priority actions will be added to the high/medium priority lists.

Written comments should be submitted by November 20, 2001, to the U.S. Department of Energy, 1000 Independence Ave., SW, Washington, D.C. 20585-0121, Attn: Michael Raymond, EE-41, or by e-mail at Michael.Raymond@ee.doe.gov. If you have any questions, please contact Michael Raymond at (202) 586-9611.

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¹ Drops to Low Priority upon completion

* Final Rules for these products have been recently published

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¹ Drops to Low Priority upon Completion

* Final Rules for these products have been recently published.

Standards

Product: Commercial Air-Cooled Central Air Conditioners and Air-Source Heat Pumps, 65-240 kBtu/h

Priority: High

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2005-2030	0.50 ¹ (to go beyond ASHRAE Standard 90.1-1999 levels)
Potential Economic Benefits/Burdens	0.4 (estimated NPV, billions of \$1998)
Potential Environmental or Energy Security Benefits	Carbon emissions reduction – est. 7 million tons.
Status of Required Changes to Test Procedures	DOE plans to publish Final Rule to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR early in FY 2002. See page 8.
Other Regulatory Actions	Possible State and regional environmental regulation (e.g. air quality).
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved June 1999, which would save an estimated 2.2 quads from 2005-2030. DOE will consider higher standards for additional energy savings.
FY 2001 Priority	High

Proposed Schedule and Rationale

Proposed Schedule	DOE plans to initiate rulemaking in FY 2002.
Rationale for Priority Level	Energy savings are significant.

¹ Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Standards

Product: Central Air Conditioners and Heat Pumps, 3 phase, <65 kBtu/h

Priority: Medium

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2004 - 2030	SEER 13 standard level = 2.91 ² SEER 12 standard level = 2.17 ²
Potential Economic Benefits/Burdens	SEER 13 = (0.7) (NPV, billions of \$1998) SEER 12 = 1.1 (NPV, billions of \$1998)
Potential Environmental or Energy Security Benefits	Carbon emissions reduction: SEER 12 = 34 million tons, SEER 13 = 43 million tons
Status of Required Changes to Test Procedures	DOE plans to publish Final Rule to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR early in FY 2002. See page 8.
Other Regulatory Actions	Possible State and regional environmental regulation (e.g. air quality).
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved June 1999. Efficiencies of these products were left unchanged. Single-phase products are regulated by NAECA, and it is desirable to have the same standards for single and three phase products. A DOE rulemaking is in progress for single phase products.
FY 2001 Priority	Medium

Proposed Schedule and Rationale

Proposed Schedule	DOE plans to initiate rulemaking for three phase equipment when rulemaking for residential (single phase) products is completed.
Rationale for Priority Level	Energy savings are significant.

² Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Standards

Product: Clothes Dryers - (Gas/Electric)

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2008 - 2030	Heat Pump Elec. Dryer (5.2 EF) = 3.5 ³ Microwave Elec. Dryer (3.4 EF) = 1.0 ³ Modulating Gas Dryer (3.8 EF) = 0.29 ³ Best Available Gas Dryer (2.8 EF) = 0.06 ³
Potential Economic Benefits/Burdens	Not available
Potential Environmental or Energy Security Benefits	Not available
Status of Required Changes to Test Procedures	Reduced annual cycles needs to be considered, definitions and creation of new product class for condensing dryers.
Other Regulatory Actions	DOE regulation of clothes washers. DOE regulation of white goods for full line manufacturers.
Recommendations by Interested Parties	There appears to be a general consensus among stakeholders that updating clothes dryer standards should be given low priority.
Evidence of Market-Driven or Voluntary Efficiency Improvements	At least three U.S. manufacturers are marketing high efficiency clothes washers, which are likely to have improved moisture extraction.
Issues	Significant dryer savings potential has been considered in clothes washer rulemaking (greater moisture extraction). Mechanical extraction has been estimated to be 20 times more cost effective than thermal extraction. New electric dryers advertise 30% reduction in energy usage.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Other DOE standards will impose cumulative burden on white goods manufacturers.

³ Based on ADL rough estimate, September 2001.

Test Procedure

Product: Clothes Dryers - (Gas/Electric)

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure needs to be changed for standard.
Priority of Standard	Low
International or Other Coordinating Activities	CSA has conducted specialized dryer tests and has asked DOE to consider revisions to the test procedure.
Recommendation by Interested Parties	
Statutory Deadline	
Issues	A new product class needs to be defined for condenser dryers. Currently there is one waiver in effect. There are numerous changes that are required prior to a standards rulemaking for clothes dryers. Investigate same test cloth issues as was done in the clothes washer rulemaking.

Proposed Schedule and Rationale:

Proposed Schedule	
Rationale for Priority Level	Considered to be a low priority by stakeholders.

Standards

Product: Clothes Washers

Priority: Low

Factors for Priority Setting		Assessment	
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2004-2030	Total range considered: [0.28 - 7.70] ⁴ Specific examples below:		
	Efficiency Improvement Over the Base Case	MEF	Range of Energy Savings
	5%	0.860	0.28 - 0.28
	10%	0.908	0.93 - 0.94
	15%	0.961	1.74 - 1.76
	20%	1.021	2.13 - 2.15
	25%	1.089	4.06 - 4.08
	35%	1.257	5.94 - 6.09
	40%	1.362	5.98 - 6.13
	45%	1.485	6.98 - 7.28
	50%	1.634	7.36 - 7.70
	The Final Rule energy savings equals 5.5 quads over 2004-2030. Required MEF of 1.04 in 2004 and 1.26 in 2007.		
Potential Economic Benefits/Burdens	The Net Present Value (NPV) is \$15.3 billion cumulative from 2004 to 2030 in 1997 dollars.		
Potential Environmental or Energy Security Benefits	For period 2004- 2030, 95 million metric tons of carbon and 254 thousand metric tons of NO _x .		
Status of Required Changes to Test Procedures	Final Rule issued January 12, 2001. Changes to the test procedure were incorporated into the standards rulemaking.		
Other Regulatory Actions	DOE regulation of clothes dryers. DOE regulation of white goods for full line manufacturers.		
Recommendations by Interested Parties			
Evidence of Market-Driven or Voluntary Efficiency Improvements	Consortium for Energy Efficiency program with utilities. Energy Star program. Federal Energy Management Program for procurement initiative. At least three U.S. manufacturers are marketing high efficient clothes washers.		
Issues			
FY 2001 Priority	High		

Proposed Schedule and Rationale

Proposed Schedule	ANOPR - Published November, 1998 NOPR - July, 2000 Final Rule - January, 2001
Rationale for Priority Level	Final Rule published January 12, 2001. Reviewed April 12, 2001.

⁴ Based on DOE Technical Support Document, January 2001.

Test Procedure

Product: Clothes Washers

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure was changed as part of the standards rulemaking.
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Published as part of standards rulemaking. NOPR - July, 2000. Final Rule January, 2001.
Rationale for Priority Level	Test procedure was revised recently to implement the standards rulemaking.

Standards

Product: Commercial Air Conditioners & Heat Pumps (All products for which DOE proposes to accept ASHRAE 90.1-1999 levels)

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2005-2030	0.6 ⁵ (ASHRAE Standard 90.1-1999)
Potential Economic Benefits/Burdens	Not available.
Potential Environmental or Energy Security Benefits	Specific estimates of emission reductions have not been developed however, energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
Status of Required Changes to Test Procedures	DOE plans to publish Final Rules to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR early in FY 2002.
Other Regulatory Actions	EPA phase out of HCFC refrigerants.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved June, 1999.
FY 2001 Priority	High

Proposed Schedule and Rationale

Proposed Schedule	Notice of Availability 5/00. Final Rule published January 12, 2001.
Rationale for Priority Level	Standards set by EPACT were amended to adopt revised ASHRAE 90.1. No further action.

⁵ Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Test Procedure

Product: Commercial Air Conditioners & Heat Pumps (DOE accepts ASHRAE 90.1-1999 test procedures for all commercial air conditioner and heat pump products.)

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Standards set by EPACT have been amended upon revision of ASHRAE 90.1 as of January 12, 2001.
Priority of Standard	Low for most products.
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	NOPR – June, 2000 Final Rule – October, 2001
Rationale for Priority Level	Final Rule should be published early in FY2002.

Standards

Product: Commercial Furnaces

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2005-2030	0.5 ⁶ (ASHRAE Standard 90.1-1999)
Potential Economic Benefits/Burdens	Not available.
Potential Environmental or Energy Security Benefits	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
Status of Required Changes to Test Procedures	DOE plans to publish Final Rule to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR early in FY 2002.
Other Regulatory Actions	Possible State and regional environmental regulation (e.g. air quality).
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved June, 1999.
FY 2001 Priority	High

Proposed Schedule and Rationale

Proposed Schedule	Notice of Availability May, 2000. Final Rule published January 12, 2001.
Rationale for Priority Level	Standards set by EPACT were amended to adopt revised ASHRAE 90.1. No further action.

⁶ Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Standards

Product: Commercial Oil and Gas-Fired Packaged Boilers

Priority: Medium

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2004-2030	0.28 ⁷ (to go beyond ASHRAE Standard 90.1-1999 levels)
Potential Economic Benefits/Burdens	0.2 (NPV, billions of \$1998)
Potential Environmental or Energy Security Benefits	Carbon emissions reduction – 4 million tons.
Status of Required Changes to Test Procedures	DOE plans to publish Final Rule to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR early in FY 2002.
Other Regulatory Actions	Possible State and regional environmental regulation (e.g. air quality).
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved June 1999, which would save an estimated 0.06 quads from 2001-2030. DOE will consider higher standards for additional energy savings.
FY 2001 Priority	N/A

Proposed Schedule and Rationale

Proposed Schedule	DOE plans to initiate work in support of rulemaking
Rationale for Priority Level	Energy savings are significant.

⁷ Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Test Procedure

Product: Commercial Oil and Gas-Fired Packaged Boilers

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Standards set by EPACT are being amended upon revision of ASHRAE 90.1
Priority of Standard	Medium
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	NOPR – August, 2000 Final Rule – October, 2001
Rationale for Priority Level	Final rule should be published early in FY2002.

Test Procedure

Product: Commercial Furnaces

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Standards set by EPACT have been amended upon revision of ASHRAE 90.1 as of January 12, 2001.
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	NOPR – December, 1999 Final Rule – October, 2001.
Rationale for Priority Level	Final rule should be published early in FY2002.

Standards

Product: Commercial Water Heaters

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2005-2030	0.07 ⁸
Potential Economic Benefits/Burdens	Not available.
Potential Environmental or Energy Security Benefits	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
Status of Required Changes to Test Procedures	DOE plans to publish the Final Rule to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR early in FY 2002.
Other Regulatory Actions	
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved June 1999.
FY 2001 Priority	High

Proposed Schedule and Rationale

Proposed Schedule	Notice of Availability May, 2000. Final Rule January, 2001.
Rationale for Priority Level	Standards set by EPACT have been amended to adopt revised ASHRAE 90.1-1999 levels for gas- and oil-fired storage water heaters

⁸ Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Test Procedure

Product: Commercial Water Heaters

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Standards set by EPACT have been amended upon revision of ASHRAE 90.1 as of January 12, 2001
Priority of Standard	Low
International or Other Coordinating Activities	ASHRAE is in process of revising (SPC 118.1). Will include heat pump water heaters.
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	NOPR – June, 2000 Final Rule – October, 2001
Rationale for Priority Level	Final rule should be published early in FY2002.

Standards

Product: Cooking Products - Gas & Electric Ovens, Cooktops, and Microwave Ovens

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1999 - 2030	Total ranges considered (Gas only): ⁹ <div style="display: flex; justify-content: space-around;"> <div><u>Ovens</u> [0.2 - 0.4]</div> <div><u>Cooktops</u> [0.1 - 0.2]</div> </div>
Potential Economic Benefits/Burdens	Total ranges considered (Gas only): ⁹ <div style="display: flex; justify-content: space-around;"> <div><u>Ovens</u> [(1.4) - 0.2]</div> <div><u>Cooktops</u> [(0.9) - 0.1]</div> </div> Cumulative Net Present Value, 1999-2030, billions 1990\$ @ 7% discount rate
Potential Environmental or Energy Security Benefits	Total ranges considered (Gas and Electric not including Microwave): ⁹ <div style="display: flex; justify-content: space-around;"> <div><u>Ovens</u> NOx [11 - 239] CO₂ [6 - 133]</div> <div><u>Cooktops</u> NOx [0 - 65] CO₂ [0 - 36]</div> </div> Cumulative emission reductions, 1999-2030, in (kt) for NOx, and (Mt) for CO ₂ .
Status of Required Changes to Test Procedures	
Other Regulatory Actions	DOE regulation of white goods for full line manufacturers.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Pilotless designs may require installation of an electrical outlet. Loss of consumer utility if loss of electrical power. If a loss of electricity, cannot use oven.
FY 2001 Priority	High (Gas); Low (Electric)

Proposed Schedule and Rationale

Proposed Schedule	Final Rule, no new standards for electric cooking products including microwave ovens, issued - September 8, 1998 Final Rule gas cooking products - To Be Determined.
Rationale for Priority Level	Potential energy savings are low to moderate. Analysis too old to use - requires new analysis for rulemaking.

⁹ Based on Draft Report, April 1996 and Supplemental Analysis, November 1997.

Test Procedure

Product: Cooking Products - Gas & Electric Ovens, Cooktops, and Microwave Ovens

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure needed to be changed for standard.
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final Rule issued - October 3, 1997
Rationale for Priority Level	

Standards

Product: Direct Heating Equipment (Gas)

Priority: Low

Factors for Priority Setting	Assessment			
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1998-2030	Total range considered: [0 - 0.1] ⁹ Specific examples below: ¹⁰			
	Piezo ignit. (64.8% AFUE)	Piezo ignit. & Derate 20% (66.9% AFUE)	Previous & Induced Draft (78.0% AFUE)	Previous, Condens. & Modulat. Oper. (87.0% AFUE)
	0.1	0	(0.3)	(1.0)
Potential Economic Benefits/Burdens	[(1.4) - 0.1] NPV, Billions of 1990\$ @ 7%			
	0	0.1	(0.6)	(1.4)
Potential Environmental or Energy Security Benefits	SO ₂ 0	(7)	(140)	(320)
	NOx 0	(6)	(132)	(301)
	CO ₂ 0	(3)	(72)	(165)
	Emission reductions in (kt) for SO ₂ and NOx, and (Mt) for CO ₂ .			
Status of Required Changes to Test Procedures	Final rule published 5/12/97.			
Other Regulatory Actions	None known that will impact product.			
Recommendations by Interested Parties				
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.			
Issues	Fuel switching. Rural communities use for backup heating during power outages. Utility concern with electronic ignition.			
FY 2001 Priority	Low			

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested parties believe this is a low priority product. Potential energy savings are low.

⁹ Based on DOE preliminary analysis, June 1995.

¹⁰ Examples shown for design options and AFUE are for gravity wall heaters (27 - 46 kBtu/hr).

Test Procedure

Product: Direct Heating Equipment (Gas)

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final Rule issued May 12, 1997.
Rationale for Priority Level	

Standards

Product: Dishwashers

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2008 - 2030	Best Available (as listed in Energy Star) (1.05 EF) = 1.7 ¹¹ Current Energy Star Dishwasher (0.58 EF) = 0.45 ¹¹
Potential Economic Benefits/Burdens	Not available.
Potential Environmental or Energy Security Benefits	Not available.
Status of Required Changes to Test Procedures	Test procedure is being revised to properly reflect energy consumption for new technologies (e.g. adaptive controls) and reduced annual cycles.
Other Regulatory Actions	DOE regulation of white goods for full line manufacturers.
Recommendations by Interested Parties	Some manufacturers believe that updating the dishwasher standard should be given a low priority.
Evidence of Market-Driven or Voluntary Efficiency Improvements	Energy Savers program. Federal Energy Management Program for procurement initiative. At least two U.S. manufacturers are marketing adaptive control dishwashers.
Issues	Increased efficiency may impact product utility (e.g. may require pre-rinsing of dishes or cleaning of filters) or the availability of affordable models (contract housing).
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Estimated potential energy savings are moderate.

¹¹ Based on ADL rough estimate, September 2001.

Test Procedure

Product: Dishwashers

Priority: High

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure needed to be changed for standard.
Priority of Standard	Low
International or Other Coordinating Activities	Efforts underway to harmonize international test procedures should include dishwashers.
Recommendation by Interested Parties	Manufacturers support a test procedure revision for more accurate testing of new adaptive control models. Industry working on revising its test procedure suggestions to encompass the variety of sensor techniques now in the market.
Statutory Deadline	
Issues	New technology in product, i.e. smart controls, fuzzy logic.

Proposed Schedule and Rationale:

Proposed Schedule	NOPR – published September, 1999 Reopening Notice – July, 2000 Final Rule – January, 2002
Rationale for Priority Level	New technology in product, i.e. smart controls, fuzzy logic.

Standards

Product: Distribution Transformers

Priority: High

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030	[0.39-10.7] ¹²
Potential Economic Benefits/Burdens	Not available.
Potential Environmental or Energy Security Benefits	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
Status of Required Changes to Test Procedures	Need to publish a test procedure before rule.
Other Regulatory Actions	None known.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	EPA Energy Star program for liquid immersion transformers. NEMA's TP-1 promotes energy efficient electrical products.
Issues	Most efficient designs include proprietary technology. NEMA recommends adoption of voluntary standards as specified in TP-1. Potential energy savings from regulatory action questioned by NEMA.
FY 2001 Priority	High

Proposed Schedule and Rationale

Proposed Schedule	DOE is engaged in standards rulemaking.
Rationale for Priority Level	Potential for significant energy savings through regulatory action under EPCA, as amended by EPAct.

¹² Based on DOE determination notice, October 22, 1997.

Test Procedure

Product: Distribution Transformers

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure needs to be established for standard.
Priority of Standard	High
International or Other Coordinating Activities	
Recommendation by Interested Parties	NEMA recommends using NEMA TP-2 test standard.
Statutory Deadline	
Issues	Sampling Plan; Definitions of Covered Products

Proposed Schedule and Rationale:

Proposed Schedule	NOPR – published November 12, 1998 Reopening Notice – June, 1999 Another Reopening Notice – January-February, 2002 Final Rule – Summer 2002
Rationale for Priority Level	Test procedure needs to be established for Standard in FY 2002.

Standards

Product: Electric Motors, 1 - 200 HP

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads)	Estimated 31.3 billion kWh/yr could be saved through enforcement of EPCA standards that became effective 1997. Certification program to be take effect in early 2002.
Potential Economic Benefits/Burdens	Not Available.
Potential Environmental or Energy Security Benefits	Not Available.
Status of Required Changes to Test Procedures	Final rule for test procedures published October 5, 1999.
Other Regulatory Actions	None known that will impact product.
Recommendations by Interested Parties	Enforcement
Evidence of Market-Driven or Voluntary Efficiency Improvements	ASHRAE 90.1. AConsortium for Energy Efficiency® program with utilities. Motor Challenge. Motor Master+
Issues	DOE regulates system efficiencies (e.g. HVAC) where motors are components of such systems.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Potential energy savings are unknown at this time. Determination required by EPCA

Test Procedure

Product: Electric Motors, 1 - 200 HP

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure needed to be revised to support the standard
Priority of Standard	Low
International or Other Coordinating Activities	Natural Resources Canada: Energy Efficiency Regulations for Electric Motors International Electrotechnical Commission/International Standards Organisation (IEC/ISO)
Recommendation by Interested Parties	Manufacturers and energy efficiency advocates support test procedure rulemaking.
Statutory Deadline	
Issues	Expect DOE test procedure to be revised for compatibility with global (IEC/ISO) test procedure.

Proposed Schedule and Rationale:

Proposed Schedule	Proposed Rule Issued – November 27, 1997 Final Rule – October 5, 1999
Rationale for Priority Level	Final Rule recently published .

Standards

Product: Fluorescent Lamp Ballasts

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2005-2030	1.2 – 2.3
Potential Economic Benefits/Burdens	1.4 – 2.6 NPV, billions of 1997\$ @ 7%
Potential Environmental or Energy Security Benefits	
Status of Required Changes to Test Procedures	None required.
Other Regulatory Actions	In Canada, Natural Resources Canada has proposed to adopt similar ballast standards with an effective date in 2005 (for both new and replacement ballasts). Some ballast manufacturers also make electric motors.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	EPA Green Lights and Energy Star Buildings, ASHRAE 90.1, DOE's FEMP Procurement Guidelines and Federal Relighting Initiative, EPAct 1992 Voluntary Luminaire Testing and Rating Program, The Energy Cost Savings Council, and some utility DSM programs.
Issues	Standards, for electronic ballasts, may adversely affect U.S. manufacturers. Impact on U.S. employment levels.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	NOPR – March, 2000 Final Rule - September, 2000
Rationale for Priority Level	Final Rule in FY2000.

Test Procedure

Product: Fluorescent Lamp Ballasts

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Efficiency levels for new standards are already in the market and are covered by existing standards and test procedures.
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	
Rationale for Priority Level	

Standards Determination

Product: High Intensity Discharge (HID) Lamps

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030	[4.4 - 8.3] ¹³
Potential Economic Benefits/Burdens	Not Available.
Potential Environmental or Energy Security Benefits	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
Status of Required Changes to Test Procedures	IES and ANSI procedures are in place.
Other Regulatory Actions	Issues with definitions, covered products and sampling.
Recommendations by Interested Parties	EPA mercury disposal requirements may apply.
Evidence of Market-Driven or Voluntary Efficiency Improvements	
Issues	Mercury vapor lamps being replaced by metal halide and high pressure sodium lamps.
	Concern about non-equitable impact of possible elimination of mercury vapor lamps (e.g. significant regional and municipal variation exists).
	High first cost impact (elimination of mercury vapor lamps will require fixture replacement).
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year.
Rationale for Priority Level	Potential energy savings are high.

¹³ Based on LBNL rough estimate, September 2001.

Test Procedure

Product: High Intensity Discharge (HID) Lamp

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure needs to be developed for standard.
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	No work expected during FY2001.
Rationale for Priority Level	

Standards

Product: Lamps, Fluorescent

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2008 - 2030	<i>Best Available</i> FEMP procurement recommendation levels (4-foot, 8-foot, and U-tube lamps) = 2.14 ¹⁴ <i>Recommended</i> FEMP procurement recommendation levels (4-foot, 8-foot, and U-tube lamps) = 1.26 ¹⁴ T8 efficacy levels (technology shift from T12 to T8) = 0.11 ¹⁴
Potential Economic Benefits/Burdens	Not Available.
Potential Environmental or Energy Security Benefits	Not Available.
Status of Required Changes to Test Procedures	IES and ANSI procedures are in place, DOE test procedure Final Rule issued May 29, 1997.
Other Regulatory Actions	Existing EPA mercury disposal requirements apply, but EPA issued a final rule July 6, 1999, including lamps as Universal Hazardous Waste.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	EPA Green Lights/Energy Star Buildings, ASHRAE 90.1, FEMP Procurement Guidelines and Federal Relighting Initiative, and some utility DSM programs.
Issues	Because lamps are components of systems, establishment of standards is more difficult.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Potential energy savings are unknown at this time. Statutory deadline is 1997 (2002) for amending current lamp standards and 1999 for adding additional general service fluorescent and incandescent lamps.

¹⁴ Based on ADL and LBNL rough estimate, September 2001.

Test Procedure

Product: Lamps, Fluorescent

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final Rule issued May 29, 19997
Rationale for Priority Level	

Standards

Product: Lamps, Incandescent General Service

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2008 - 2030	Technology shift to incandescent halogen lamp, 10% efficacy increase = 3.73 ¹⁵ 3% efficacy increase = 1.19 ¹⁵ 1.5% efficacy increase = 0.61 ¹⁵
Potential Economic Benefits/Burdens	Not Available.
Potential Environmental or Energy Security Benefits	Not Available.
Status of Required Changes to Test Procedures	IES and ANSI procedures are in place, DOE test procedure Final Rule issued May 29, 1997.
Other Regulatory Actions	
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	EPA Green Lights/Energy Star Buildings, ASHRAE 90.1, FEMP Federal Relighting Initiative, and some utility DSM programs, Voluntary Luminaire Testing and Rating Program.
Issues	Because lamps are components of systems, establishment of standards is more difficult.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Potential energy savings are unknown at this time. Statutory deadline is 1997 (2002) for amending current lamp standards and 1999 for adding additional general service fluorescent and incandescent lamps.

¹⁵ Based on ADL and LBNL rough estimate, September 2001.

Test Procedure

Product: Lamps, Incandescent General Service

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final Rule issued May 29, 1997
Rationale for Priority Level	

Standards

Product: Lamps, Incandescent Reflector

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2008 - 2030	Technology shift to halogen infrared reflector lamp, 30% efficacy increase = 2.23 ¹⁶ 3% efficacy increase = 0.28 ¹⁶ 1.5% efficacy increase = 0.14 ¹⁶
Potential Economic Benefits/Burdens	Not Available.
Potential Environmental or Energy Security Benefits	Not Available.
Status of Required Changes to Test Procedures	IES and ANSI procedures are in place, DOE test procedure Final Rule issued May 29, 1997.
Other Regulatory Actions	
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	EPA Green Lights/Energy Star Buildings, ASHRAE 90.1, FEMP Federal Relighting Initiative, and some utility DSM programs, Voluntary Luminaire Testing and Rating Program.
Issues	Because lamps are components of systems, establishment of standards is more difficult.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Potential energy savings are unknown at this time. Statutory deadline is 1997 (2002) for amending current lamp standards and 1999 for adding additional general service fluorescent and incandescent lamps.

¹⁶ Based on ADL and LBNL rough estimate, September 2001.

Test Procedure

Product: Lamps, Incandescent Reflector

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final Rule issued May 29, 1997
Rationale for Priority Level	

Standards

Product: Packaged Terminal Air Conditioners and Heat Pumps
Priority: High

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2004 - 2030	0.56 ¹⁷ (to go beyond ASHRAE Standard 90.1-1999 replacement equip. levels) 0.03 ¹⁷ (to go beyond ASHRAE Standard 90.1-1999 new construction equip. levels)
Potential Economic Benefits/Burdens	0.6 above replacement equip. levels (NPV, billions of \$1998) .01 above new construction equip. levels (NPV, billions of \$1998)
Potential Environmental or Energy Security Benefits	Carbon emissions reduction = 8 million tons (above replacement equip. levels), 1 million tons (above new construction equip. levels)
Status of Required Changes to Test Procedures	DOE plans to publish Final Rules to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR by September 2001.
Other Regulatory Actions	EPA phase out of HCFC refrigerants.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved 6/99, which would save an estimated 0.11 quads from 2001-2030. DOE will consider higher standards for additional energy savings.
FY 2001 Priority	N/A

Proposed Schedule and Rationale

Proposed Schedule	DOE plans to initiate rulemaking in FY2002.
Rationale for Priority Level	Energy savings are significant.

¹⁷ Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Standards

Product: Plumbing Fixtures/Fittings

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads)	The Department has not conducted any recent analysis regarding potential energy savings for this product.
Potential Economic Benefits/Burdens	Not available.
Potential Environmental or Energy Security Benefits	Not available.
Status of Required Changes to Test Procedures	
Other Regulatory Actions	None.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	As flow rates and water consumption decline the effects on utility need to be carefully considered.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Dependent upon revision by ASME and approval by ANSI to ASME/ANSI A112.18.1 and ASME/ANSI A112.19.6.

Test Procedure

Product: Plumbing Fixtures/Fittings

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final Rule - March 18, 1998
Rationale for Priority Level	

Standards

Product: Pool Heaters (Gas)

Priority: Low

Factors for Priority Setting	Assessment		
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2000-2030	Total range considered: [0.2 - 0.9] ¹⁸ Specific examples below:		
	<u>IID, (78% E_T)</u>	<u>Non-condensing limit, (82.2% E_T)</u>	<u>Condensing, (90.8% E_T)</u>
	0.2	0.4	0.7
Potential Economic Benefits/Burdens	Total range: [(1.4) - 0.2] ¹⁶ Cumulative Net Present Value, Billions 1990\$ @ 7%		
	<u>IID, (78% E_T)</u>	<u>Non-condensing limit, (82.2% E_T)</u>	<u>Condensing, (90.8% E_T)</u>
	0.2	0.2	(0.6)
Potential Environmental or Energy Security Benefits	<u>IID, (78% E_T)</u>	<u>Non-cond. limit, (82.2% E_T)</u>	<u>Condensing, (90.8% E_T)</u>
	NO _x	42	42
	CO ₂	11	18
			35
Status of Required Changes to Test Procedures	Cumulative Emission reductions in (kt) for SO ₂ and NO _x , and (Mt) for CO ₂		
	Final rule issued 5/12/97.		
Other Regulatory Actions	None known that will impact product.		
Recommendations by Interested Parties			
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.		
Issues			
FY 2001 Priority	Low		

Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next year. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Potential energy savings are low.

¹⁸ Based on DOE preliminary analysis, June 1995.

Test Procedure

Product: Pool Heaters (Gas)

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard.
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final rule issued May 12, 1997.
Rationale for Priority Level	

Standards

Product: Refrigerators, Refrigerator/Freezers, & Freezers

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1998-2030	Energy Star (~10% more efficient) = 1.40 ¹⁹
Potential Economic Benefits/Burdens	Not available
Potential Environmental or Energy Security Benefits	Not available
Status of Required Changes to Test Procedures	No changes required for standards.
Other Regulatory Actions	EPA phase out of insulation HCFCs in 2003. DOE regulation of white goods for full line manufacturers.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	Super Efficient Refrigerator Program (Golden Carrot). New York Housing Authority mass procurement. Energy Savers program. Significant quantities of new high efficiency models are being marketed.
Issues	Final Rule Issued - April 28, 1997.
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	Final Rule Issued - April 28, 1997
Rationale for Priority Level	Rule issued, will be effective July 1, 2001

¹⁹ Based on LBNL rough estimate, September, 2001. No formal analysis has been conducted for Department since the Final Rule was issued in 1997.

Test Procedure

Product: Refrigerators, Refrigerator/Freezers, & Freezers

Priority: Medium for compact refrigerators and refrigerator/freezers, Low for all others.

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard.
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	Tests at NIST have revealed deficiencies in the compact refrigerator test procedure. These will be researched and corrected, probably by revising the test procedure for compact refrigerators.

Proposed Schedule and Rationale:

Proposed Schedule	NIST tested compact refrigerators, and proposed a modification of the compact refrigerator test procedure. A rulemaking to modify the test procedure will begin in 2002.
Rationale for Priority Level	Compact refrigerator manufacturers have obtained inconsistent results when testing each other's products. Deficiencies in test procedure have been identified.

Standards

Product: Residential Central Air Conditioners & Heat Pumps

Priority: High - drops to Low priority upon completion

Factors for Priority Setting	Assessment															
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2006 - 2030	Total range considered: [1.7 – 8.8] ²⁰ Specific examples below: <table><tr><td><u>11 SEER</u></td><td><u>12 SEER</u></td><td><u>13 SEER</u></td><td><u>18 SEER</u></td></tr><tr><td>1.7</td><td>3.0</td><td>4.2</td><td>8.8</td></tr></table>	<u>11 SEER</u>	<u>12 SEER</u>	<u>13 SEER</u>	<u>18 SEER</u>	1.7	3.0	4.2	8.8							
<u>11 SEER</u>	<u>12 SEER</u>	<u>13 SEER</u>	<u>18 SEER</u>													
1.7	3.0	4.2	8.8													
Potential Economic Benefits/Burdens	Net Present Value, Cumulative 2006-2030, Billions 1998\$ @ 7% discount rate ²⁰ <table><tr><td><u>11 SEER</u></td><td><u>12 SEER</u></td><td><u>13 SEER</u></td><td><u>18 SEER</u></td></tr><tr><td>2</td><td>2</td><td>1</td><td>(10)</td></tr></table>	<u>11 SEER</u>	<u>12 SEER</u>	<u>13 SEER</u>	<u>18 SEER</u>	2	2	1	(10)							
<u>11 SEER</u>	<u>12 SEER</u>	<u>13 SEER</u>	<u>18 SEER</u>													
2	2	1	(10)													
Potential Environmental or Energy Security Benefits	Cumulative 2006-2030, Carbon in Mt, NO _x in kt ²⁰ <table><tr><td></td><td><u>11 SEER</u></td><td><u>12 SEER</u></td><td><u>13 SEER</u></td><td><u>18 SEER</u></td></tr><tr><td>C:</td><td>13</td><td>24</td><td>33</td><td>63</td></tr><tr><td>NO_x:</td><td>37</td><td>73</td><td>94</td><td>184</td></tr></table>		<u>11 SEER</u>	<u>12 SEER</u>	<u>13 SEER</u>	<u>18 SEER</u>	C:	13	24	33	63	NO _x :	37	73	94	184
	<u>11 SEER</u>	<u>12 SEER</u>	<u>13 SEER</u>	<u>18 SEER</u>												
C:	13	24	33	63												
NO _x :	37	73	94	184												
Status of Required Changes to Test Procedures	Changes are not required for standards.															
Other Regulatory Actions	EPA phase out of HCFC-22 refrigerant - 2010 DOE regulation of furnaces.															
Recommendations by Interested Parties																
Evidence of Market-Driven or Voluntary Efficiency Improvements	Energy Star program recommending a 12 SEER.															
Issues	Small manufacturers. Niche Products. Regional variation.															
FY 2001 Priority	High															

Proposed Schedule and Rationale

Proposed Schedule	SANOPR – November, 1999 NOPR – October, 2000 Final Rule – January 22, 2001 Supplemental NOPR (Final Rule withdrawn) – July 25, 2001.
Rationale for Priority Level	Potential energy savings are large.

²⁰ Based on DOE analysis for Supplemental NOPR, see www.eren.doe.gov/buildings/codes_standards/index.htm.

Test Procedure

Product: Residential Central Air Conditioners & Heat Pumps

Priority: High

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure does not need to be changed for standard.
Priority of Standard	High
International or Other Coordinating Activities	
Recommendation by Interested Parties	Would like to see it published.
Statutory Deadline	
Issues	Many changes to accommodate new technology. ARI has submitted data for and developed new default cyclic degradation coefficients.

Proposed Schedule and Rationale:

Proposed Schedule	NOPR – January, 2001 Final Rule to be issued in early FY 2002.
Rationale for Priority Level	Test procedure revision long overdue.

Test Procedure

Product: Residential Central Air Conditioners & Heat Pumps – Ductless Split Systems

Priority: Medium

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure does not need to be changed for standard.
Priority of Standard	High
International or Other Coordinating Activities	
Recommendation by Interested Parties	Ductless split system manufacturers would prefer to use calorimeter test.
Statutory Deadline	
Issues	Calorimeter test (which is used for room air conditioners) is more suitable and accurate for testing ductless split central air conditioners, but this test is not currently in the DOE central air conditioning test procedure.

Proposed Schedule and Rationale:

Proposed Schedule	DOE plans to initiate work in support of rulemaking
Rationale for Priority Level	Change would make test procedure more accurate for this product.

Standards

Product: Residential Furnaces & Boilers

Priority: High

Factors for Priority Setting	Assessment				
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2012 - 2042	Total range considered: [1.8 - 15.1] ²¹ Specific examples below:				
	Gas Furnaces	Insul., IID, imprv. fan motor, & two stage oper. (81.8% AFUE)	Previous + condensing (90% AFUE)	Previous + continuous modulation & imprv. HX (96% AFUE)	
	Gas Boilers	IID & vent damper (81.8% AFUE)	Adv. venting & imprv. insul. (88% AFUE)	Condensing & imprv. HX (98% AFUE)	
		1.8	8.5	15.1	
Potential Economic Benefits/Burdens	Not available.				
Potential Environmental or Energy Security Benefits	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are more significant than other products.				
Status of Required Changes to Test Procedures	Final rule issued May 12, 1997.				
Other Regulatory Actions	Possible State and regional environmental regulation. DOE regulation of central air conditioning products.				
Recommendations by Interested Parties					
Evidence of Market-Driven or Voluntary Efficiency Improvements	Energy Star program. Wisconsin state condensing furnace/boiler program. ACEEE indicated that trend for higher efficiency products stopped in 1994.				
Issues	Venting and electricity use.				
FY 2001 Priority	Low				

Proposed Schedule and Rationale

Proposed Schedule	Rulemaking was initiated in 2001.
Rationale for Priority Level	Potential energy savings are significant. Higher standards levels requiring technologies such as condensing furnaces would impact utility to consumers.

²¹ Based on LBNL rough estimate for gas only, September 2001.

Test Procedure

Product: Residential Furnaces & Boilers

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard. The test procedure for combined space- and water-heating appliances (a separate product class within the standards rulemaking) needs to be developed.
Priority of Standard	High
International or Other Coordinating Activities	ASHRAE SPC 124 has released for public review a test procedure for combined appliances.
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Final rule issued May 12, 1997.
Rationale for Priority Level	

Standards

Product: Residential Water Heaters - Gas, Oil & Electric

Priority: Low

Factors for Priority Setting	Assessment					
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2004-2030	Total ranges considered: 3.3 – 11.5 ²² Specific examples below:					
	Electric	Heat Traps & Insul. Tank Bottom	Heat Traps, 2" Insul. & Insul. Tank Bottom	Heat Traps, 2.5" Insul. & Insul. Tank Bottom	Ht. Traps, 3" Insul. & Plastic Tank	
	Gas	2" Insul., Heat Traps, Flue Baffle	2.5" Insul., Heat Traps, Flue Baffle	2" Insul., Heat Traps, Flue Baffle	3" Insul., Sidearm w/ 80% Flue Baffle & IID	
	Quads at source	3.3	4.5	4.6	11.5	
	NPV (billion 1998\$)	1.2	-0.1	2.0	-24.9	
	SO ₂ (kt)	-3	-11	-13	-64	
	NO _x (kt)	175	215	273	459	
	CO ₂ (Mt)	148	139	152	354	
	The Final Rule energy savings equals 4.6 quads over 2004-2030.					
	The Net Present Value (NPV) is \$2.0 billion cumulative from 2004 to 2030 in 1997 dollars.					
Potential Economic Benefits/Burdens						
Potential Environmental or Energy Security Benefits	For period 2004- 2030, 152 million metric tons of carbon and 273 thousand metric tons of NO _x .					
Status of Required Changes to Test Procedures	Changes not required for standards. Final rule for test procedure was published in 1998.					
Other Regulatory Actions	EPA phase out of HCFCs for insulation (2003). Consumer Product Safety Commission initiative for prevention of ignition of flammable vapors by gas water heaters.					
Recommendations by Interested Parties						
Evidence of Market-Driven or Voluntary Efficiency Improvements	Demand-side management programs for high efficiency water heaters.					
Issues	Fuel switching. Replacement blowing agent for insulation. Installation in small spaces.					
FY 2001 Priority	High					

Proposed Schedule and Rationale

Proposed Schedule	NOPR – April, 2000 Final Rule - January, 2001
Rationale for Priority Level	Final Rule published January 17, 2001. Reviewed April 12, 2001.

²² Based on DOE Technical Support Document, January 2001.

Test Procedure

Product: Residential Water Heaters - Gas, Oil & Electric

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	No change needed
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	
Rationale for Priority Level	Test procedure published in May, 1998.

Standards

Product: Room Air Conditioners

Priority: Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2008 -2030	~7% more efficient than Energy Star (~10.8 EER) = 0.7 ²³ ~15% more efficient than Energy Star (~11.5 EER) = 1.2 ²³
Potential Economic Benefits/Burdens	Not available
Potential Environmental or Energy Security Benefits	Not available
Status of Required Changes to Test Procedures	Not required for standards.
Other Regulatory Actions	EPA phase out of HCFC-22 refrigerant.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	DSM programs. Labeling program very effective.
Issues	Final Rule Issued - September 24, 1997
FY 2001 Priority	Low

Proposed Schedule and Rationale

Proposed Schedule	Final Rule Issued - September 24, 1997
Rationale for Priority Level	

²³ Based on LBNL rough estimate, September, 2001. No formal analysis has been conducted for Department since the Final Rule was issued in 1997.

Test Procedure

Product: Room Air Conditioners

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	Test Procedure not needed to be changed for standard
Priority of Standard	Low
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	There are no other existing or proposed test procedures specifically targeted at room air conditioners. The only possible alternative would be to develop a seasonal energy efficiency measure analogous to the SEER used for central air conditioners. It is uncertain how valuable such a seasonal standard would be in better predicting actual energy usage, as explained below.

Proposed Schedule and Rationale:

Proposed Schedule	
Rationale for Priority Level	

Standards

Product: Tankless Gas-Fired Instantaneous Water Heaters

Priority: Medium

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2004-2030	0.10 ²⁴ (to go beyond ASHRAE Standard 90.1-1999 levels)
Potential Economic Benefits/Burdens	0.05 (NPV, billions of \$1998)
Potential Environmental or Energy Security Benefits	Carbon emissions reduction = 2 million tons.
Status of Required Changes to Test Procedures	DOE plans to publish the Final Rule to incorporate the test procedures referred to in ASHRAE Standard 90.1 into the CFR in September 2001.
Other Regulatory Actions	
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	Revised ASHRAE 90.1 standards approved 6/99.
FY 2001 Priority	High

Proposed Schedule and Rationale

Proposed Schedule	DOE plans to initiate work in support of rulemaking
Rationale for Priority Level	Energy savings are significant if DOE decided to go beyond ASHRAE Standard 90.1-1999 levels

²⁴ Based on Screening Analysis Report for Commercial HVAC Standards, see 65 FR 30929.

Standards Determination

Product: Small Electric Motors

Priority: High

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1998-2030	[0.8-4.5] ²⁵
Potential Economic Benefits/Burdens	Not available.
Potential Environmental or Energy Security Benefits	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
Status of Required Changes to Test Procedures	IEEE 114 test procedure for single-phase induction motors is under review.
Other Regulatory Actions	Small motors used in NAECA "covered products" (e.g. white goods) are exempt.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	None known.
Issues	None.
FY 2001 Priority	Medium

Proposed Schedule and Rationale

Proposed Schedule	DOE plans to initiate determination in FY2002.
Rationale for Priority Level	Potential energy savings are significant. Determination required by EPCA.

²⁵ Based on draft DOE report, May 1996. Other estimates are in preparation and should be ready by the end of 2001.

Test Procedure

Product: Small Electric Motors

Priority: Low

Factors for Priority Setting	Assessment
Relationship to Changes in Standard	
Priority of Standard	High
International or Other Coordinating Activities	
Recommendation by Interested Parties	
Statutory Deadline	
Issues	

Proposed Schedule and Rationale:

Proposed Schedule	Dependent on Determination.
Rationale for Priority Level	